

## **REMARKS**

The Applicants acknowledge the Office Action of September 8, 2004 with appreciation. The Office acknowledges the Response and Amendment of March 23, 2004 and indicates all grounds of rejection in the Office Action of December 23, 2004 have been withdrawn. Claims 29-58 and Claims 60-64 are pending in the application. Of these, Claims 29-44, 52-55, 60 and 61 are withdrawn from consideration. The Applicants request rejoinder of the withdrawn subject matter upon the Office determination of allowable subject matter in the elected invention. Claims 45-51, Claims 56-58 and Claims 62-64 are elected and under examination. The Office requires proper form in identifying claim status in the Listing of Claims. The Applicants comply with the requirement with the presently amended Listing of Claims.

To begin, Claims 50-51 are rejected under 35 U.S.C. § 112, first paragraph, for lack of enablement. The Office does not consider the scope of the claim to a method of preventing cancer to be enabled by the Specification disclosure. The Applicants currently amend the claims to remove the language which the Office finds objectionable. The Applicants submit that the amendments obviate the rejection. Reconsideration and withdrawal of the rejection for lack of enablement is respectfully requested.

The Office rejects Claims 45-51, 56-58 and 62-64 under 35 U.S.C. § 112, second paragraph, for failing to claim with particularity. The Office considers the recitation "in need thereof" to be vague and indefinite. The Applicants submit that this is a term of the art, widely used by practitioners without confusion. It is contradictory for the Office to suggest that the Applicants change the claims to methods of treating without claiming to treat those in need thereof. Moreover, the Applicants note that the instant Examiner has issued patents with this language. See representative U.S.

Patent Numbers 6,652,853, 6,165,466, 6,129,913 and 6,096,313. In view of the foregoing, reconsideration and withdrawal of the rejection is respectfully solicited.

Moving on, the Office rejects Claims 56-58 and 63-64 under 35 U.S.C. § 102(b) as being anticipated by d'Hinterland, et al., (U.S. Patent No. 4,501,693). The reference discloses the isolation of proteoglycan from *Klebsiella pneumoniae* and the activation of NK cells with the proteoglycan. The Office notes that the instant claims recite "for administration in combination with an anticancer treatment" and concludes that recitation of an intended use does not provide a patentable distinction. The Applicants presently amend the claims to clearly set forth that the pharmaceutical composition is "administered in combination with an anticancer treatment". The Applicants submit that this claim subject matter is not anticipated by d'Hinterland, et al. Reconsideration and withdrawal of the rejection is respectfully requested.

The Office rejects Claims 45-49 and 62 under 35 U.S.C. § 103(a) as being obvious over d'Hinterland, et al. in view of Henderson, (U.S. Patent No. 5,648,478) and Teicher, et al., (U.S. Patent No. 5,776,898). The Office considers d'Hinterland, et al. to teach a proteoglycan from *Klebsiella pneumoniae* which strongly activates NK cells. The Office finds Henderson to teach tumor vaccines which elicit NK cells to destroy tumor cells. The Office additionally cites Teicher, et al. who disclose standard treatments for tumors. The Office concludes that it would be *prima facie* obvious to use the proteoglycan for activation of NK cells, as in d'Hinterland, et al., to treat tumors since Henderson discloses that NK cells destroy tumor cells. Further, it would be obvious to combine this treatment with standard cancer therapy since some cancer therapy destroys or slows the growth of a tumor, as disclosed in Teicher, et al.

To make a *prima facie* obvious rejection, the Office must identify some suggestion or motivation to combine the teaching of the cited prior art. The Office relies on the teaching of NK cell activation, as disclosed in d'Hinterland, et al., to provide a "motivation" to treat tumors, since NK cells are disclosed in Henderson to kill tumor cells. The Applicants acknowledge that d'Hinterland, et al. disclose a preparation of

*Klebsiella pneumoniae* proteoglycans and demonstrate NK cell activation with this preparation. The Applicants acknowledge that Henderson disclose a DNA-mediated tumor vaccine. What the Office fails to note is that tumor destruction as disclosed in Henderson is facilitated by the heterologous expression of a highly visible antigen which specifically elicits NK cells to the tumor cells. The Office basis for rejection over Henderson is founded on the statement that, "Tumor vaccines of this nature can elicit natural killer cells to ablate any remaining tumor cells." Thus, the Office has referenced the prior art teaching of a DNA-mediated tumor vaccine which genetically modifies cells to become more immunogenic to elicit NK cells (Column 14, line 55), such methods being absent with the instant method of inducing an antitumor immune response.

More specifically, the Applicants note that Henderson discloses a tumor vaccine comprising an engineered expression system designed to specifically elicit NK cells to prostate tumor cells. Henderson discloses an expression polynucleotide comprising a prostate-specific enhancer for expression of a gene encoding a lymphokine or an antigen which elicits an immune response directed against prostate cells expressing said lymphokine or antigen. Henderson discloses that the expression polynucleotide encodes a highly visible antigen, such as the immunoglobulin  $\kappa$ V region of human IgG or SV40 T antigen, to treat prostate neoplasia. It is submitted that one skilled in the art would not conclude from the teaching of Henderson that NK cells would be elicited to a tumor which does not express the highly visible antigen to elicit NK cells as disclosed. Consequently, there is no motivation or suggestion to combine the teaching of Henderson with the teaching of d'Hinterland, et al. and Teicher, et al. with any reasonable expectation of success for inducing an antitumor response in tumor cells which do not express the highly visible antigen to elicit NK cells. The Applicants submit that the Office has not established a *prima facie* basis for obviousness. Reconsideration and withdrawal of the prior art rejection for obviousness is respectfully solicited.

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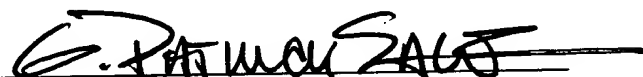
Accordingly, entry of the present amendment, reconsideration of all grounds of objection and rejection, withdrawal thereof, and passage of this application to issue are all hereby respectfully solicited.

It should be apparent that the undersigned attorney has made an earnest effort to place this application into condition for immediate allowance. If he can be of assistance to the Examiner in the elimination of any possibly-outstanding insignificant impediment to an immediate allowance, the Examiner is respectfully invited to call him at his below-listed number for such purpose.

Allowance is solicited.

Respectfully submitted,

THE FIRM OF HUESCHEN AND SAGE

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Enclosure: Listing of Claims, Extension Fee (one month) \$120.00 and Postal Card Receipt.

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**THE COMMISSIONER IS HEREBY AUTHORIZED TO CHARGE ANY FURTHER OR ADDITIONAL FEES WHICH MAY BE REQUIRED (DUE TO OMISSION, DEFICIENCY, OR OTHERWISE), OR TO CREDIT ANY OVERPAYMENT, TO DEPOSIT ACCOUNT NO. 08,3220.**